

REMARKS

Claim 1 is amended to more particularly point out that Applicant's invention is directed to a method of making a diesel particulate filter substrate, as described throughout the specification including at paragraphs 0024 and 0025. The claim is also amended to call for providing a wall-flow substrate that includes a porous wall separating an inlet channel and an outlet channel and comprises an inlet wall surface adjacent the inlet channel and an outlet wall surface adjacent the outlet channel, see Fig. 1 and paragraph 0026. The claim is also amended to recite that the substrate is characterized by a thickness and an average pore size of 5 to 500 micrometers, see paragraph 0027. The claim is further amended to point out that the catalyst composition is applied to the inlet wall surface and not the outlet wall surface, as shown in Fig. 1, has an average particle diameters of about 2 micrometers to about 10 micrometers, as originally recited in claim 18, now cancelled, has a particle size of 10% to 80% of the pore substrate size, as originally recite in claim 2, now cancelled, and penetrates less than or equal to 25% of the thickness, as originally recited in claim 11, now cancelled.

Claims 3 and 4 are amended to call for an average pore size, consistent with the antecedent in amended claim 1. Claims 6-8 are amended to call for a diesel particulate filter, consistent with the antecedent in amended claim 1. Claim 13 is amended to refer to the second slurry, consistent with claim 1. Claim 15 and 16 are amended to refer to the refractory oxide, consistent with claim 1.

Claim Rejection based upon Canadian Patent No. 2,299,602

Claims 1, 3-4, 6-8, and 13-16 were rejected under 35 U.S.C. § 102(b) as anticipated by Canadian Patent No. 2,299,602. Claim 5 was rejected under 35 U.S.C. § 103 as unpatentable over the Canadian Patent.

Applicant's invention relates to a diesel particulate filter, see paragraph 0015. The filter is disposed in a diesel exhaust stream and includes a substrate having a porous wall. As exhaust gas is forced to flow through the wall, soot accumulates on the inlet wall surface. Applicant has found that a catalyst composition that is effective in treating the soot. This is attributed to the combination of a promoter oxide precursor and a catalyst, applied in stepwise manner, see paragraph 0042. Also, the catalyst composition is formed with a particle size that is controlled to limit penetration within the inlet wall, thereby increasing the effectiveness of the catalyst composition for treating the soot, see paragraphs 0040, 0041 and 0046.

In contrast, the cited Canadian patent describes a catalyst element for treating exhaust from a petrol or gasoline engine, see page 17, beginning line 17. Although not expressly shown in the patent, the practitioner would perceive that the substrate of the Canadian patent comprises longitudinal channels through which gas flows from the inlet end to the outlet end without flowing through the walls. This is in marked distinction from Applicant's diesel particulate filter wherein the exhaust gas is forced through the porous walls. The Canadian patent does not suggest that, when applied to a porous wall, the penetration of the promoter oxide and the catalyst may be limited to maintain both active species at the inlet surface in a manner to be effective in treating accumulated soot. Indeed, in the flow-through substrate of the Canadian patent, distribution of the catalyst on both sides of the wall is desirable. Thus, the Canadian

patent does not teach or suggest Applicant's diesel filter wherein the catalyst composition that includes the combination of promoter oxide and catalyst limited to the inlet wall so as to be effective in treating filtered soot.

Claim 1 is directed to Applicant's method of making a diesel particulate filter that is distinguished both by the stepwise manner of preparing the catalyst composition and by its application in a manner so as to limit the catalyst composition to the inlet surface. The claim calls for providing a wall-flow substrate that includes a porous wall having an inlet surface adjacent the inlet channel and an outlet surface adjacent the outlet channel. The porosity of the wall is further characterized by the recited average pore size. In contrast, the Canadian patent discloses a substrate with longitudinal flow-through channels and does not contemplate forced gas flow through a porous wall from an inlet side to an outlet side. The claim further recites the steps for forming a catalyst composition by calcining a first slurry with a promoter oxide precursor and then calcining a second slurry with the catalyst. In accordance with the claim, the catalyst composition is applied to only the inlet surface of the wall and not the outlet surface. Nothing in the Canadian patent suggests limiting application to one side of the wall separating the channels, nor would this be suitable for treating exhaust gas in both channels as contemplated for the application therein. Applicant has found that, for the composition with the promoter oxide, as further defined by the average particle size relative to the average pore size of the substrate, the penetration may be limited to 25% of the wall thickness. The Canadian patent does not teach or suggest that the distribution of both the promoter oxide and the catalyst may be limited to one side of the wall or that penetration may be limited to 25% of the porous wall. Thus, the Canadian patent does not teach or suggest Applicant's method in claim 1.

Claims 3-8 and 13-16 are dependent upon claim 1 and so not taught or suggested by the

Canadian patent at least for the reasons set forth with regard to that claim.

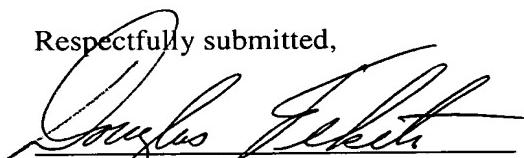
Accordingly, it is respectfully requested that the rejection of the claims based upon the Canadian patent be reconsidered and withdrawn, and that the claims be allowed.

Conclusion

It is believed, in view of the amendments and remarks herein, that all grounds of rejection of the claims have been addressed and overcome, and that all claims are in condition for allowance. If it would further prosecution of the application, the Examiner is urged to contact the undersigned at the phone number provided.

The Commissioner is hereby authorized to charge any fees associated with this communication to Deposit Account No. 50-0831.

Respectfully submitted,



Douglas D. Fekete
Reg. No. 29,065
Delphi Technologies, Inc.
Legal Staff – M/C 480-410-202
P.O. Box 5052
Troy, Michigan 48007-5052

(248) 813-1210